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North Coast Regional Water Quality Control Board
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November 21, 2005

Mr. McFadin:

This notation is in support of a document, submitted to your agency, entitled "Current and Potential Riparian Forest Condition along Scott River Watershed Tributaries", which detailed among other things methods applied to stream indexing using the Riparian - Topographic Stream Shading Index model (i.e., RipTopo). We erroneously omitted field validation results from this exercise. I am sending these results to you herein to be included with the aforementioned document.

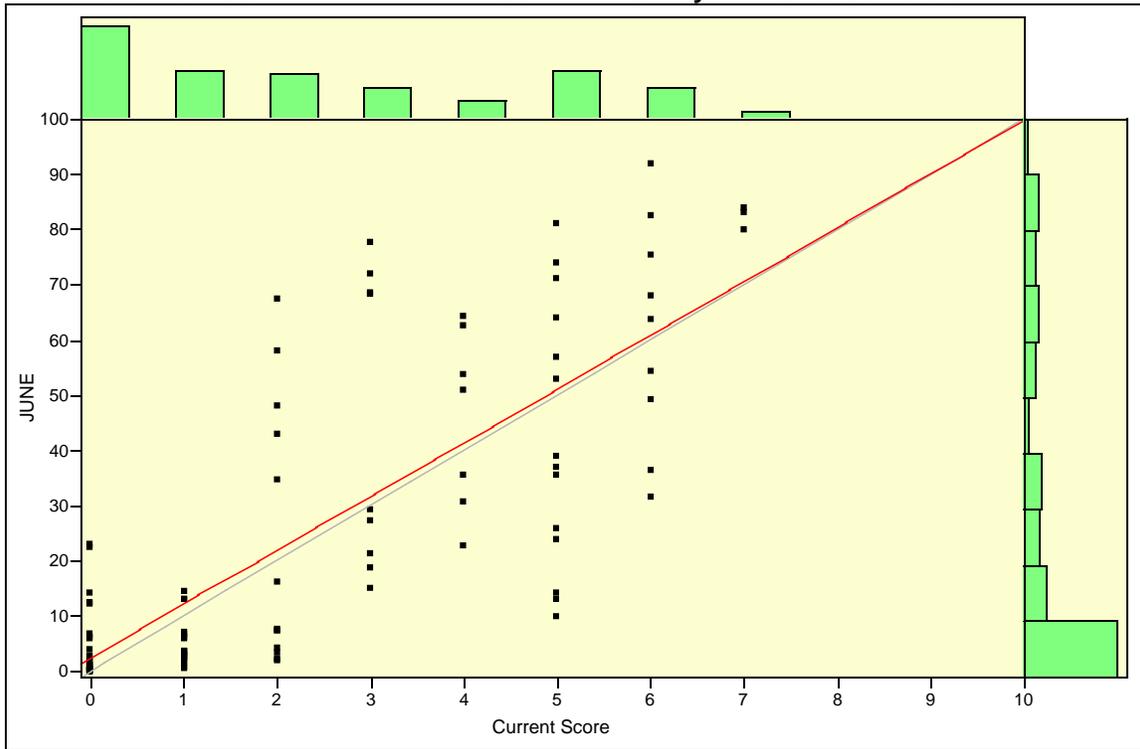
The field verification portion of the indexing model included a correlative comparison to field data, collected by your agency, acquired via Solar Pathfinder™ and geolocated with a global positioning system unit. Measures from Solar Pathfinder™, a hemispherical transparent bubble with diagrammatic skyview plots, range from 0 - 100 and are adjusted to the month of inquiry. We chose to use values for the month of June, as our RipTopo indexing run was parameterized for summer solstice. As these field data were nonparametric in their distribution (i.e., skewed toward low observations of shading conditions, which likely reflect true watershed conditions assuming that the choice of sampling locations were representative and random in nature), we chose to use Spearman's Rho as the best statistical measure of correlation. Results from this validation exercise are shown here as a correlation coefficient: 0.7159 ($p > |\text{Rho}| < 0.0001$, $n = 105$). A scatter diagram of this relationship is also provided in Figure 1.

Sincerely,

A handwritten signature in black ink that reads "Joshua H. Viers".

Joshua H. Viers, Ph.D.

Figure 1. Bivariate Fit of SOLAR PATHFINDER JUNE VALUE By RIPTOPO Current SHADE INDEX



The gray fitted line is effectively a 1:1 line (intercept = 0; slope = 10). The red fitted line is an OLS linear fit of the same data.